

New min. meal plan increases meals, reduces dining dollars

Students express concern over reduced flexibility, higher price per meal, lack of input in the process

By Rujul Gandhi
ASSOCIATE NEWS EDITOR

The minimum required meal plan for upper-level (2nd, 3rd, and 4th year) students living in dining dorms has been changed to include 150 meals per semester, instead of the previous 125. The amount of dining dollars in the meal plan has been reduced to \$100 per semester.

The cost of the new meal plan will be \$2,225.50 per semester, as opposed to \$1,950 for last year's 125

meals + 290 dining dollars per semester plan. This meal plan will be mandatory for residents of dorms with dining halls: Simmons Hall, McCormick Hall, Baker House, Mas-eeh Hall, and Next House.

However, students have expressed doubt about the plans. Some key concerns were the decrease in dining dollars, lack of flexibility, increased cost per meal, and wasting of extra meal swipes.

In a survey of Next House residents conducted by Next Exec,

93.9% of the 49 respondents said that they were not in favor of the change, while no one responded that they were in favor. "I do think last semester's meal plan wasn't ideal—it had too many dining dollars for the limited selection of food and grocery options you could use it on for on and it was quite expensive—but this one is not any better," wrote Thomas Adebiyi '21, a resident of Next House, in an email to *The Tech*.

Meal Plans, Page 2



ETHAN SIT — THE TECH

Simmons Hall residents compete in the dorm's annual scooter hockey tournament Tuesday.

Dining releases mobile food ordering platform

System in testing now, to be released this fall

By Kaitlyn Hennacy
ASSOCIATE NEWS EDITOR

Last week, MIT Dining rolled out a mobile food ordering platform for campus retail dining locations to a limited number of student and staff test users.

MIT Dining aims to open the system to entire MIT community by

the beginning of the fall semester, Mark Hayes, director of MIT Dining, wrote in a statement to *The Tech*. The Dunkin' Donuts located in the Stratton Student Center is currently the sole retailer offering online ordering through the app, which is called CBORD GET and is available

Dining, Page 2

Enrolled Student Survey results show high student satisfaction

Student stress, well-being show areas for improvement

By Soomin Chun
NEWS EDITOR

The results of the Undergraduate Enrolled Student Survey (ESS), a survey MIT administers every four years in the spring, were emailed to students last Thursday. The survey, with a 38% response rate, indicated that the student body generally feels positively about the campus community and their learning, but a significant proportion of students also frequently feel overwhelmed or stressed. Other factors surveyed

include extracurricular participation, majors, and eating habits.

This year's 38% response rate is a notable decrease from 63% in 2015 and 65% in 2011. This could be due to a variety of reasons, from the large number of surveys administered this year to the timing of the survey, explained Vice Chancellor Ian Waitz in an interview with *The Tech*. Waitz acknowledged that while the surveys point to issues, they do not provide a full understanding of them. The administration hopes to combine the survey results with other information

such as formal interviews in order to more comprehensively understand problems.

88% of students feel satisfied with their undergraduate education so far, with 93% satisfied with overall quality of instruction and 97% agreeing that faculty members treat them fairly. The most popular field that students expect to graduate in is 6-3, declared by 21% of survey respondents, followed by Course 6-2 at 10% and Course 2 at 7%.

Survey, Page 2

IN SHORT

The **Spring Career Fair** is today 11 a.m to 4 p.m.

Tomorrow is the last day to submit **advanced degree thesis titles**. There is an \$85 late fee.

The deadline for graduate students to **renew or terminate housing** for June 2019 is April 10.

CPW is next weekend, April 11–14.

Interested in **joining** *The Tech*? Stop by for dinner Sunday at 6 p.m. or email join@tech.mit.edu.

Send news and tips to news@tech.mit.edu.

Stratton Student Center Subway closes

The Subway restaurant in the Lobdell Food Court of the Stratton Student Center closed this past weekend. The closure occurred "abruptly due to issues between Subway's parent company and the franchisee that ran

the W20 location," according to a statement from Mark Hayes, director of MIT Dining, emailed to *The Tech*.

"The restaurant will remain closed until another dining concept is identified and installed,"

Hayes continued. A working group of students and staff is currently working on improving dining in W20. Ideas on improving retail dining can be sent to foodstuff@mit.edu.

—Whitney Zhang



KEVIN LY — THE TECH

Shirts created by MIT community members affected by sexual assault line the banisters of the Stratton Student Center in an effort to educate the community as part of Sexual Assault Awareness Month.

REDEFINING SCIENCE FICTION

From imperial China to billions of years in the future. **ARTS, p. 6**

DIG HOLES AND MAKE CABLES

The art of getting rich fast. **ARTS, p. 7**

SHAPES WITHIN SHAPES

Dr. Rosalind Franklin and the secret of life. **ARTS, p. 7**



MEETING YOURSELF

The horror of your image. **ARTS, p.6**

TAKING ADVANTAGE OF THE HUMAN GENOME

Using machine learning to understand the genomics of disease. **SCIENCE, p. 9**

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WEATHER

Beautiful spring weekend ahead

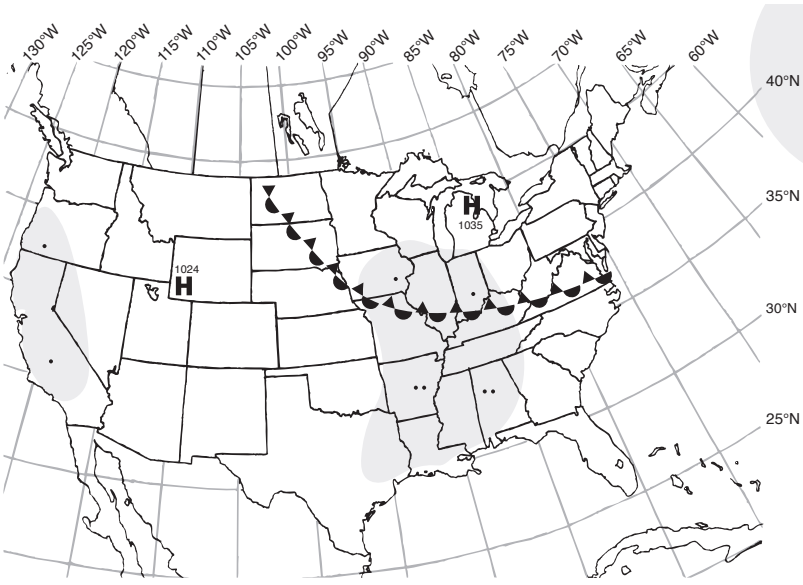
By Reagan Zimmerman

Enjoy the warm weather this weekend! It's starting to feel like spring with temperatures reaching the 60s. After rain showers Friday night and Saturday morning, there will be mostly sunny, clear skies for the rest of the weekend.

Around the US, the weather has been rather unpredictable. Alaska saw temperatures reach the 70s on March 19, the earliest ever recorded. On the other hand, parts of North Carolina had snow this past week. In Boston, though, we're seeing normal signs of spring, so enjoy the weather this weekend!

Extended Forecast

Today: Clear and sunny. High of 49°F (9°C). Winds from the west around 15 mph.
Tonight: Mostly sunny with an overnight low of 32°F (0°C). Winds from the northwest around 10 mph.
Tomorrow: Sunny early, with a chance of showers after 4pm. Rain continuing overnight. High of 45°F (7°C). Low around 38°F (3°C). Winds from the southeast at 10 mph.
Saturday: Rain ending in the late morning, then partly cloudy the rest of the day. High of 64°F (18°C). Low of 46°F (8°C).
Sunday: Sunny with mostly clear skies. High around 60°F (16°C).



Situation for Noon Eastern Time, Thursday, April 4, 2019

Weather Systems	Weather Fronts	Precipitation Symbols	Other Symbols
H High Pressure	Trough	Snow	Fog
L Low Pressure	Warm Front	Rain	Thunderstorm
Hurricane	Cold Front	Light	Haze
	Stationary Front	Moderate	
		Heavy	

Compiled by MIT Meteorology Staff and The Tech

Dining director Hayes: sticker prices for next year may also increase

Meal Plans, from Page 1

According to a Rate Increases FAQ document released March 22, changes to housing and dining policies were implemented by the Executive Committee of the MIT Corporation in accordance with inputs received from the Committee on Undergraduate Admissions and Financial Aid (CUAFA), the Enrollment Management Group (EMG), and the Division for Student Life (DSL). However, in a statement emailed to *The Tech*, the CUAFA declined any input in this particular change.

The FAQ document says that the new plan is meant to “ensure students have no fewer than 10 meals per week.” The document says that “data and direct inputs from students and faculty” indicated that students on the 125-block plan did not eat adequately due to worries about running out of meal swipes.

Mark Hayes, director of MIT Dining, told *The Tech* in an interview that concerns were first raised in McCormick Hall last October. “The Head of House noticed that the breakfast participation was going down,” said Hayes. “We met with about 15 or so students ... we talked through some of those concerns.” However, Raul Radovitzky, head of house for McCormick, wrote in an email to *The Tech* that the issues which came up in the dorm had “nothing to do with the new changes that we are just all learning about.”

According to Hayes, the decision was also based on data from the Fall

2018 semester which indicated that total meal swipe usage across the dining halls had fallen by 11% compared to Fall 2017. The 125-block plan was not offered in Fall 2017, with the minimum commitment at that time being a 10-per-week plan. The new plan is intended to bring the minimum commitment back to that level.

Reduced Dining Dollars

Some students are concerned that reducing dining dollars reduces flexibility. “We’re generally adults who can make our own choices ... choosing a certain dorm doesn’t mean: MIT Dining, I want you to regulate my meal habits,” said Annetoinette Figueroa ’21 in an interview with *The Tech*.

“They say ‘dining plans are built around choice,’ but now I feel like I’m being forced to eat in the dining hall even more than before,” Cory Lynch ’20, a resident of Next House, wrote in an email to *The Tech*.

Hayes said that dining dollars were no longer serving their original intent. According to Hayes, dining dollars were intended to allow students to use their meal plan in east campus in case it was inconvenient to come back to west campus during class hours, but data from the last year showed that over two thirds of dining dollars were being used for lunch at the Student Center.

Hayes also said that adding more dining dollars to the 150-block plan would have increased the price of the plan beyond the current increase.

Increased Price Per Meal

“Taking into account the dining dollar subsidy, we’d be paying over \$14 per swipe, which is more expensive than paying for any meal directly at the register,” wrote Adebisi. “This just seems unfair for the people in dining dorms forced to get a meal plan.”

Hayes acknowledged that the new plan’s price per meal was higher than the sticker price for the past year. However, he also noted that the sticker prices next year might be higher. “We haven’t established prices for this year yet,” he said.

The FAQ notes that “in comparison with peers and other institutions, MIT’s dining rates are low.”

Financial Concerns

Some students are concerned about the increasing cost of meal plans. Jessica Tang ’20, president of Next House, said in an interview with *The Tech* that people were concerned the cost would cause people to be split into dorms based off of financial background, reducing the diversity in dorms.

Peter Cummings, an administrator from the Division of Student Life, told *The Tech* in an interview that financial aid would be adapted to cover rising costs of housing and dining. “The effect [of financial aid] is on an individual, but it’s handled on sort of a group basis. MIT always needs to do its best to support the students on that macro-basis,” he said.

Cummings acknowledged the impact of prices on students, and

attributed the increased costs to multiple factors, including worker wages, labor costs, and “financial sustainability” of campus dining.

“I think that if dining halls are such a big issue to maintain, and if you are getting such negative feedback about dining halls, then it’s definitely a fantastic idea to minimize the influence of a dining hall in new dorms and future dorms,” said Maya Levy ’21, a resident of Simmons Hall, in an interview with *The Tech*.

The new Vassar St. dorm is currently set to be a dining hall dorm, and will provide lunch as well.

House Environment

Hayes and Cummings also mentioned that the dining plan change may get students to “refocus back on the house experience.”

“That’s kinda the purpose of the meal plan, to have students come back or stay in their houses for as many meals as they can,” said Hayes. He added that this would supplement efforts by Heads of Houses to create a community in the hall.

“Honestly, that’s not a real response,” said Levy. “There is no issue with students hanging out in dining hall dorms.” Levy said that students come together to work on problem sets, form study groups, play video games, and for a variety of other activities. She also said that students not going back to their dorms for dinner is often due to busy schedules, and dining dollars are more convenient in those cases.

Communication and Student Involvement

“A lot of people are also upset that this change was made without warning,” Tang said.

“The UA was not involved in this decision,” Alexa Martin ’19, president of the Undergraduate Association (UA), wrote in an email to *The Tech*. “There are students on the house dining committee including a dining chair from every dining hall dorm. To my knowledge none of them were involved in the decision to change the meal plan ... however, in previous semesters, including a 150/semester option was discussed.”

Hayes said that the decision was rushed due to the concerns raised in October, and hence communication with the student body was compromised. He said that working groups consisting of administrators, faculty, students, and Heads of House have been formed to evaluate both meal plans and overall campus dining for next year, to avoid lack of communication in the future.

“I think that we [students] should try to work with admin. At the end of the day, we need to work together, because the dining halls are not going away, the meal plan is not going away, and there’s a lot of people that enjoy using the meal plan,” said Levy.

A meeting to discuss the dining changes, which will include the house dining committee, will take place today.

Students show resilience

Survey, from Page 1

The survey also revealed areas for improvement. While overall satisfaction is high, 37% of students are very stressed about managing workload, 71% have often felt overwhelmed, and 18% have felt so depressed it was difficult to function. Also, while overall assessment of faculty is very positive, 53% of students feel less than two faculty members know them well enough to provide a letter of recommendation.

“It’s the fraction that [answer negatively to a question] that I really pay attention to,” said Waitz. “How can we make the environment better given [that information]?”

On the other hand, 84% of students felt that they were very or quite well described by the statement “when I am facing a challenge,

I don’t give up easily,” aimed at measuring academic resilience.

In response, Waitz said, “it struck me that despite how rigorous MIT is and how some of the students feel overwhelmed and stressed by the workload, there was a strong supportive community among the students.”

The Office of the Vice Chancellor (OVC) hopes to tackle some of these issues through improved advising, including its advising pilot program for next year’s first-year students. The OVC also hopes its programs aimed to increase experiential learning and introduce more flexible options for first-years will help future students who may be uncertain of their major, projected from the current 35% of students who changed their major and 18% who were undecided.

Dunkin’ chosen as pilot for app

Dining, from Page 1

for download on mobile devices.

GET is a product of the CBORD group, which already provides every MIT campus dining location’s point-of-sale system.

“The Student Center Dunkin’ location was chosen as the pi-

lot concept because they have a smaller number of menu items and have standardized procedures for integrating mobile orders into their workflow. Cambridge Grill will be integrated next since it is operated by the same parent company as the Dunkin’ franchise,” Hayes wrote.

Students can fill out a survey at techcash.mit.edu to suggest additional retailers to be integrated into the app.

Last year, MIT Dining decided to allow advance orders at campus eateries after a dining review and Request for Proposals process, according to Hayes.

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```
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    return linux, OSX, javascript, applescript, perl, python, PHP

if self.interest == True:
    print "E-mail join@tech.mit.edu"

-----F1 joinTechno.py (Python)---L1---Top-----
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CRISIS IN THE MIDDLE EAST:
WHAT LIES AHEAD?

TUESDAY, APRIL 9

12:00 PM | 66-168

Speaker:

Valentine Moghadam
Professor of Sociology
and International Affairs,
Northeastern University



The discussion will cover the fallout from the US/UK invasion and occupation of Iraq, the handling of the Arab Spring protests, the new US-Saudi-Israel axis aimed at countering Iran, and military expenditures. This will be counterposed with recent survey findings on changing societal attitudes and how these might generate new socio-economic and political priorities.

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Voice Your Concern on
MIT and Saudi Arabia



A group of faculty, staff, students, and alums are raising their concerns about MIT's financial ties to the Kingdom of Saudi Arabia in a letter to the MIT Corporation.

This letter is available for you to sign. As part of our work supporting ethical reflection at MIT, we invite you to read the letter and consider your response.

Learn more at
www.mit-ksa.org



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Undergrad and grad students: take the AAU survey on sexual misconduct

It has been five years since MIT first conducted a campus-wide survey on attitudes towards sexual assault and misconduct, so some students may not know or remember how MIT responded to its past findings. The 2014 Campus Attitudes on Sexual Assault Survey (CASA) results offered a great starting point for making data-driven decisions about policies, education, and outreach efforts on campus, including increased transparency and support for students.

The 2019 Association of American Universities (AAU) Campus Climate Survey

The data from this year's survey will help MIT redouble its efforts, make changes, and address new issues that might arise.

MIT affiliates. There is no penalty for not participating, and you can choose to leave questions blank if you would prefer not to share certain information. No identifying information about an individual or a group is connected to the results; only what students answer on the survey will be reported, and responses will be presented in summary form so that no individual can be identified. Given the explicit and sensitive nature of the survey content, student privacy is of utmost concern.

The 2019 AAU campus climate survey will be open April 2 to May 1. Check your email for a link to the survey. Upon completion of the survey, you will receive a \$10 Amazon gift card or \$10 donation to a charity of your choice.

Signatories:
Title IX Student Advisory Committee
Graduate Women at MIT
Undergraduate Association
Graduate Student Council

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Peele holds up a mirror to our past and present, and what we see is absolutely terrifying

In his 1903 cornerstone essay on race “The Souls of Black Folk,” W.E.B. DuBois coined the term “double consciousness” to describe the experience of living as an African-American: a “sense of always looking at one’s self through the eyes of others, of measuring one’s soul by the tape of a world that looks on in amused contempt and pity.” In his latest project, Jordan Peele turns this idea on its head and implicates all of *us*, demanding the audience to confront the shadow selves we have forgotten and neglected. In doing so, Peele not only proves that he’s a radical visionary and storyteller here to stay, but also proclaims himself as the next great auteur of American cinema, one in line to inherit the mantle of “master of suspense.”

When the present-day Wilson family finally enters the story, it is with a birds-eye shot of their car driving through the lushly green Santa Cruz wilderness. This imagery, along with the repeated visual motif of reflection and mirrors, deliberately calls to mind the opening of *The Shining*, the example par excellence of the horror canon upon which Peele meticulously assembles his film. In *The Shining*, the Torrance family's

★★★★★

Us

Directed by Jordan Peele

Screenplay by Jordan Peele

**Starring Lupita Nyong'o,
Winston Duke, Elisabeth
Moss, Anna Diop**

Rated R, Now Playing



CLAUDETTE BARIUS/UNIVERSAL PICTURE

Lupita Nyong'o stars as Adelaide Wilson's doppelgänger Red in *Us*, written, produced and directed by Jordan Peele.

But Peele takes this idea even further. The *Us* of the film is double, just like the film's doppelgangers; it refers both to the "us" of the Wilson family, and to the broader "U.S." that is the country most of us call home. In that way, Peele's film can be read as an explication of the double-consciousness of America itself, a nation that has conveniently chosen to forget and escape its tainted, troubled past and, in doing so, has neglected half of itself. Just like Adelaide then, we too are due for a violent reckoning. *Us* is nothing less than an allegorical documentary of Trump's America, an investigation of the rifts, divides, and walls that separate us from the people who are just like us. It's no accident, then, that Peele revisits the sweeping green imagery of *The Shining* with an incredibly appropriate modern twist in his chilling final scene.

Peele's decision to revisit the horror genre for his second film is unsurprising, not just due to the nature of his message but also because the genre is one that he clearly has mastery over. Peele understands the Hitchcockian lesson that suspense isn't blowing up a bomb at a dinner table; rather, it's telling the audience that a bomb will go

off under a table in 15 minutes and revealing in the juxtaposition of their agonized anticipation against the characters' own ignorance. Peele eschews conventional jump scares (for the most part) in favor of slowly developing moments of amplified tension, delicately playing the camera to the audience's expectations. Nowhere is this more apparent than in the scene where Adelaide's husband, Gabe (Winston Duke), confronts his doppelganger on a jittery boat in the middle of a murky lake at night, a scene that pays homage to *the* original suspense blockbuster *Jaws*. An incredibly haunting score and exceptional use of editing bring everything together — Peele clearly knows the value of cutting away from a shot of built up mystery (like the back profile of a bloody man standing on a beach, or that of the young girl in the funhouse) before giving too much away.

Peele's greatest strength is his ability to deftly balance these elements of terror against equally well-crafted instances of comedic relief. In Peele's first film, *Get Out*, this was embodied by the character of Rod Williams, the best friend of the film's protagonist Chris who asks the police for help investigating a conspiracy to abduct black people and turn them into sex slaves. The same mind that produced that memorable scene is clearly at work in *Us*, and one of the film's most noteworthy moments comes when a digital voice assistant mistakenly plays a certain NWA song in a punchline that will certainly make you hate yourself for laughing out loud. The result is a perfect blend of comedy and horror that will leave you laughing just as often as it will leave you anxiously clinging to the edge of your seats.

Ultimately, it is the little unexplained details that offer subtle clues to the film's

layered mysteries and mark out Peele's creative genius, both as a writer and a director. Consider, for instance, how an early scene depicts Adelaide eating strawberries for lunch while the rest of the Wilson family indulges in burgers and sodas, offering us character development while also foreshadowing one of the film's most important plot points. Or how the sign on the fun-house changes between the flashback and present day, conveniently losing all traces of its originally racially coded and offensive subtext. Or how the rabbits in the film keep multiplying, a clever historical nod to Malthus reminding us that often the greatest problems we face are, quite literally, of our own making.

Critics and audiences alike will certainly attempt to measure up *Us* against Peele's wildly successful and attention-grabbing debut film *Get Out*. But there's hardly a fair comparison to be made. *Us* is more expansive and more ambitious, the type of film that can only be made by a director who has already established himself and his style. It retains the mythology of *Get Out* (the "Sunken Place" is literalized as a system of underground tunnels) yet also resists any attempts to cleanly map the allegorical narrative onto our own life in a simple, straightforward way. The ending, rather than offering us any tidy answers or explanations, displaces and redefines the central conflict of the film in a way that will leave you struggling to understand what it all meant long after the credits stop running. But that's exactly Peele's point in making a film that acts as a mirror to reveal the darkest, most uncomfortable truths of the world we live in. Watching *Us* is a dizzying, disorienting experience — just like your worst nightmare.

BOOK REVIEW

Broken Stars takes you to imperial China, the far future, and everything in between

In his second science fiction anthology, *Broken Stars*, Hugo award winner Ken Liu presents a diverse selection of works from 14 contemporary Chinese authors. In the introduction, Liu writes that he makes “no attempt at curating a ‘best of’ anthology....Instead, the most important criterion I used was simply this: *I enjoyed the story and thought it memorable*. When wielded honestly, very few stories pass this filter.” I tend to agree with him! So then, did *Broken Stars* live up to the mark? For the most part, yes. Since the stories differed so drastically in tone, it’s difficult to pinpoint any single, unifying strength between them. Instead, each author’s contribution left its own distinct impression. It is a testament to Liu’s strength as a translator that he is capable of preserving each author’s unique voice across the language barrier. For example, Xia Jia’s “Goodnight, Melancholy” is sweet, quiet, and intimate, while Fei Dao’s “The

Robot Who Liked to Tell Tall Tales” is absurd, psychedelic, and fun. These differences help prevent monotony and serve to accentuate each story’s emotional punch.

That said, not everything worked for me. I personally failed to connect with several of the shortest entries in the collection, like Hao Jinfang's "The New Year Train" and Regina Kanyu Wang's "The Brain Box." I feel these stories are simply overshadowed by their beefier neighbors and that they would work much better on their own.

The range of content that Liu presents here is fantastic in more than one sense. Several stories, including Tang Fei's "Broken Stars" (the titular entry), have explicitly magical elements, and a great deal explore alternative timelines, oftentimes reimagining historical events. There are stories set in space several billion years in the future, in imperial China, and everywhere in between. Thanks to these inclusions, *Broken Stars* might leave you asking what it means for something to be "science fiction."

Liu provides accessible footnotes to elaborate on wordplay and context which may be unclear from the text itself. This was especially helpful in stories like Zhang Ran's "The Snow of Jinyang," which assume a familiarity with ancient Chinese history. Before each new author, Liu also dedicates a few pages to a quick bio which outlines the history of their work. I felt this was a wise choice, especially considering that a number of authors represented in this book have never been published in English before. Several times, these passages helped me understand that a story was playing into a trope or literary tradition that, due to its unfamiliarity, would have gone completely over my head. One such example is *chuanyue*, which Liu defines as a "genre of time-travel fiction whose closest English analog would be something like Mark Twain's *A Connecticut Yankee in King Arthur's Court*, and traditional science fiction."

Liu's attention to detail makes it clear that this book has been meticulously and



Broken Stars

**Translated and Edited by
Ken Liu**

Tor Books

Feb. 19

lovingly crafted. It would be miraculous if I resonated with every short in this collection, and while that didn't happen, I came remarkably close. With his tight translation, strong content selection, and thoughtful editorial contributions, Liu has produced an excellent anthology, and whether you're curious about the future, the past, or the rapidly evolving present, *Broken Stars* should not disappoint.

THEATER REVIEW

The most important X-ray crystallography photo in history

Photograph 51 is a sympathetic look at Dr. Rosalind Franklin's contribution to the discovery of DNA's double helix structure

Photograph 51

Written by Anna Ziegler

Directed by Rebecca Bradshaw

The Nora Theatre Company

Central Square Theater

March 14–April 14

By Ivy Li
ARTS EDITOR

After leaving the theater, I went back to lab to analyze X-ray images of the galaxy until midnight; I decided to do this instead of going home because I felt inspired by Dr. Rosalind Franklin. Anna Ziegler's wondrous script of *Photograph 51* breathes life into the meticulous work of data analysis. The Nora Theatre Company's production set is just as meticulously crafted; the microscope, the photographs of DNA, the equipment, and the set design are not toy facsimiles but essentially real. Franklin's and Dr. Maurice Wilkins's (Barlow Adamson) two desks are on opposite ends, allowing Franklin and Wilkins to circle each other, argue, talk, walk, and everything in between in this laboratory space. All this is symmetrically intertwined with the plot, the fervid discovery of the nature of DNA and Franklin's contributions to it. From a metaphoric play of metaphoric ideas — "shapes within shapes," as Dr. Franklin calls it — this production of *Photograph 51* and the people whose stories it tells draws this race to discovery into and out of focus. It's mesmerising to watch.

"One sees something new each time one looks at beautiful things," says Franklin, as she recalls memories of trips into the moun-

tain, the snow, the trees, the wind. It's a rare thing to see science portrayed with such beauty in words, but even rarer to see a female figure in theater portrayed as not: Stacy Fischer plays a Franklin that is terse, stubborn, confident, and most of all, unflinchingly intelligent. As poor graduate student Josh Gluck (Raymond Gosling) finds out, Franklin stays late every night to finish her work and remains stubbornly doubtful of her results because in her position, she can never be wrong.

Photograph 51 attempts to rectify the blight of Franklin's lack of recognition in historical accounts, but it acknowledges everyone's faults, including Franklin's. The only two roles left not open to interpretation are Dr. Donald Caspar (Jesse Hinson) and Dr. Francis Crick (John Tracey). Caspar, who is introduced as an admirer of Dr. Franklin's work through mailed letters, pays her perfect respect once he joins her in her lab. The exchanges between them are endearing and amusing. As light illuminates Caspar from off the stage, he speaks with absolute reverence through his letters. The rest of the stage is dark: it's night, Franklin works at her desk, the only place illuminated. To Caspar's disappointment, she continues to ignore his letters. Eventually she responds in time, and he does complete his doctorate thesis. Meanwhile, Crick is introduced at first as an impulsive upstart who pays no respect to Franklin (or anyone really, including Wilkins) unless he needs something. With Dr. James Watson (Michael Underhill), Crick and Watson form a sort of comedic villain duo that, as most biology textbooks may or may not say, discovered the secret to life. Tracey plays an exaggerated caricature, his wild hair, his gangly movements, and his comedic sexism that teeters the line, while Underhill's Watson is less so, even coming to a soft conclusion that all he had ever wanted was to study the world, not for the glory or monetary reward of it.

Our central pairing is Franklin and Wilkins, from their first meeting to their final, fictional meeting after Franklin's death

from ovarian cancer. Fischer plays off Adamson well, and they should, as their tense relationship is meant to be the heart of the play. Adamson's Wilkins possesses a warm sympathy, and we have to love and hate the two of them. For Franklin, her work is what matters; her gender and personality don't. For Wilkins, it's the opposite. Their first meeting sets the tone for the rest of the play: Wilkins does not invite Franklin to eat with the other male researchers, refuses to acknowledge her as Dr. Franklin, and believes her to be his assistant, not his equal. It's clear they are coming into their arguments with different mindsets. Wilkins tries to remedy his mistake after their first meeting, but we know it is doomed from the start. In this regard, they are the most suitable research partners that never could have been. It's a courtship that isn't fulfilled because of

misunderstandings, of what isn't said just as much as what is said.

But there is one account when they did speak to each other eye to eye. Franklin saw a production of Shakespeare's *The Winter's Tale* and recalls the character Hermione but can't remember who the actress was. Wilkins, who saw Franklin at the theater and wished he had the courage to speak to her, says that he also didn't remember who the actress was. "She simply didn't stand out, I suppose," remarks Franklin at the end. But she did stand out. And Photograph 51, the clearest and most remarkable image of X-ray crystallography produced at the time, remains her testament that women in science made remarkable contributions, that her work led to the discovery of DNA's structure, and that research revealed the beauty of secrets in the biological world.



MAGGIE HALM

Biophysicist Dr. Rosalind Franklin (Stacy Fischer) studies DNA in Nora Theater Company's production of *Photograph 51*.

MOVIE REVIEW

Dig a hole, or maybe not

High-frequency trading does not make for high-quality entertainment

★★★★★

The Hummingbird Project

Directed by Kim Nguyen

**Screenplay by Kim
Nguyen**

**Starring Jesse Eisenberg,
Alexander Skarsgård,
Salma Hayek, Michael
Mando**

Rated R, Now Playing

By Nathan Liang
ASSOCIATE ARTS EDITOR

The faster the technology, the richer we can become. This is the first idea you are introduced to in *The Hummingbird Project* as Vincent Zaleski (Jesse Eisenberg) sets his grand plan into motion: to build a fiber-optic cable that stretches from Kansas to New Jersey so that he and his cousin Anton (Alexander Skarsgård) can gain an edge in the world of high-frequency trading, making millions as a result. However, where there is money, there is greed, and the cousins often encounter adversity in the form of Eva Torres (Salma Hayek), Anton's boss before he quits to help Vincent.

While the premise seems interesting, the resulting execution is lacking. The first act of the movie is filled with Vincent hustling people to help with his project. While this sort of bartering and quick-thinking is not uncommon for Jesse Eisenberg's characters, one can only go so long hearing talk about cables, digging holes, and buying land before it becomes tedious and ridiculous. Did we really need to see him give the same pitch to five different people? Was it necessary for us to see Vincent back people into corners just so that they'd help him progress? I'm not sure, but the whole process wasn't entertaining.

Unfortunately, this overbearing trend continues throughout the movie. As Vincent and co. encounter issue after issue with installing their gargantuan fiber-optic cable across the US, we are there every gritty step of the way. From Anton's coding struggles to Vincent's money-draining ventures, the duo never catches a break, and all is laid bare for the viewers. I would argue that we are sometimes given too much unnecessary detail such that it becomes easy to zone out or lose track of what the actual issues in the process are. For instance, every time there is a machinery malfunction or logistical error, we, the audience, are forced to address it along with Vincent, even if it's some small clerical issue we could easily be spared watching. And, as if the conflicts in the film didn't seem superficial and clichéd enough, the cancer bomb is dropped on Vincent, and now he has one more thing to worry about on his infinite list of woes.

Questionable writing of the film aside, the performances of the cast seem to be the

only things that can save *The Hummingbird Project*. Jesse Eisenberg plays the role of hustler Vincent well. It's an iteration of a persona Eisenberg has proven to do well before, and this performance is no exception. Alexander Skarsgård, while nearly unrecognizable as the balding, quiet Anton, also conducts his character seamlessly, from the small nervous mannerisms to reflecting his

mounting frustrations with Vincent's overly ambitious plan.

Overall, would I recommend anyone watch *The Hummingbird Project*? Probably not. However, if you want to play a really fun drinking game, I'd recommend taking a shot anytime anyone mentions the word "cable." You'll probably be out of it within the first fifteen minutes of the movie.



COURTESY OF THE ORCHARL

Mark Vega (Michael Mando) tries to **reason** with the sickly Vincent Zaleski (Jesse Eisenberg) in *The Hummingbird Project*.

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NOTES

Taking advantage of the human genome

SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE

In the future, the lab hopes to gain a molecular understanding of many phenomena that we know to be effective but do not have enough biological information to understand why. For example, meditation is a practice that helps with stress, anxiety, and overall focus. Similarly, people often feel better after they are given a placebo medication, in spite of the fact that it contains no active drugs. However, it is still unclear to why these methods work from a molecular standpoint. Professor Manolis Kellis and his group hope to uncover the molecular bases for phenomena that people have experienced for millennia but have yet to understand at a fundamental biological level.

Email *join@tech.mit.edu*

$$P(D) = D^2 + D + 1$$

Solution, page 12

12x	120x			12x	
		30x	12x	2x	
	5			5+	
120x		3		30x	
		1÷			24x
3x			30x		

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Solution, page 12

44 Canary watcher

45 Line of work
47 Spicy sausages
51 Minimal authenticity
54 Hand-dyeing technique
57 Word on a mall map
58 Disney Snow Queen
59 Green shade
60 Sticks in the water
61 Like __ of bricks
62 Exhausted, so to speak
63 Get too personal
64 Fail to float

- 1 HS ordeals
- 2 Cause to kvetch
- 3 Blue-blanket boy in papers
- 4 Watches from the stands
- 5 Game of Thrones territories
- 6 Tina's 30 Rock boss
- 7 Part of some buoys
- 8 Some singers
- 9 Refracting device
- 10 Fish for breakfast

1	2	3	4		5	6	7		8	9	10	11	12
13					14				15				
16					17				18				
19				20					21				
22								23			24	25	26
			27			28	29				30		
31	32	33				34				35			
36					37				38				
39					40				41				
42				43				44					
45			46				47				48	49	50
			51			52	53						
54	55	56				57				58			
59						60				61			
62						63				64			

50 What a knee-sock covers	54 "I'm flying!" locale in
52 Recent server of Grinch's	Titanic
Green flapjacks	55 "I beat people up" boxer
53 In the vicinity	56 Insider's offering



Einstein was WRONG when he said that provisional patent #39561 represented a novel gravel-sorting technique and should be approved by the Patent Office.

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Founders Fund

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Reception
6:00 – 7:30 PM
Debate

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Commander
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Solution to Not a Lot
from page 10

P	A	L	S		F	A	B		B	P	L	U	S
S	N	I	P		W	I	L	E		A	R	O	M
A	N	N	E		H	E	E	L		S	I	X	P
T	O	U	C	H	O	F	C	L	A	S	S		
S	Y	S	T	E	M	S			T	E	M	P	L
			A	X	E		E	R	A	S		L	A
I	R	A	T	E		A	J	A	R		R	A	N
S	H	R	E	D	O	F	E	V	I	D	E	N	C
L	O	G	S		P	A	C	E		E	S	T	E
A	N	O		P	E	R	T		C	A	T		
M	E	T	I	E				S	A	L	A	M	I
			G	R	A	I	N	O	F	T	R	U	T
B	A	T	I	K		H	E	R	E		E	L	S
O	L	I	V	E		O	A	R	S		A	T	O
W	I	P	E	D		P	R	I			S	I	N

Solution to Phosphate
from page 10

8	2	1	9	3	4	7	5	6
6	9	7	1	5	8	2	4	3
4	3	5	2	6	7	1	9	8
5	1	6	4	8	2	9	3	7
2	7	3	5	9	6	4	8	1
9	4	8	7	1	3	5	6	2
3	5	4	8	2	1	6	7	9
1	6	9	3	7	5	8	2	4
7	8	2	6	4	9	3	1	5

Solution to P(D)
from page 10

2	6	1	5	4	3
6	4	5	3	2	1
1	5	6	4	3	2
4	2	3	1	6	5
5	3	4	2	1	6
3	1	2	6	5	4

Solution to SVD
from page 11

3	7	2	1	6	4	12	5	10	9	11	8	13
6	10	5	4	9	7	2	8	13	12	1	11	3
4	8	3	2	7	5	13	6	11	10	12	9	1
8	12	7	6	11	9	4	10	2	1	3	13	5
5	9	4	3	8	6	1	7	12	11	13	10	2
2	6	1	13	5	3	11	4	9	8	10	7	12
9	13	8	7	12	10	5	11	3	2	4	1	6
11	2	10	9	1	12	7	13	5	4	6	3	8
12	3	11	10	2	13	8	1	6	5	7	4	9
10	1	9	8	13	11	6	12	4	3	5	2	7
7	11	6	5	10	8	3	9	1	13	2	12	4
13	4	12	11	3	1	9	2	7	6	8	5	10
1	5	13	12	4	2	10	3	8	7	9	6	11